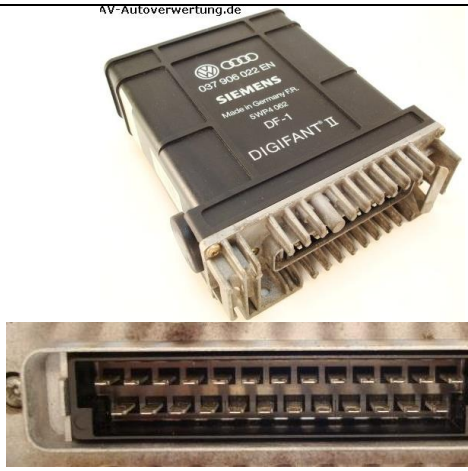
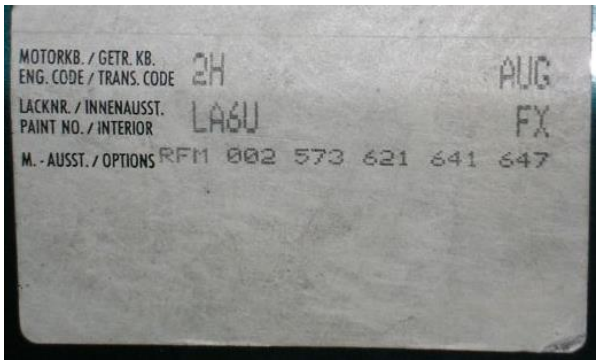
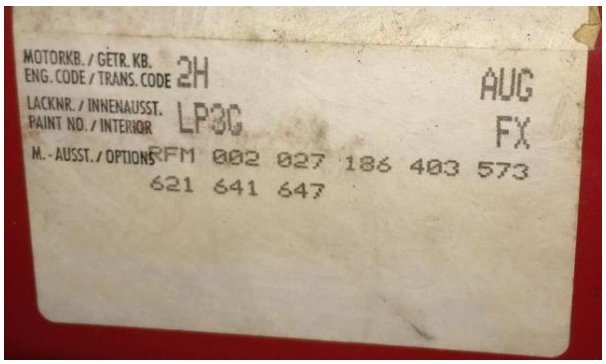
# Volkswagen Cabriolet DIY Guide
## Digifant II vs. Digifant I

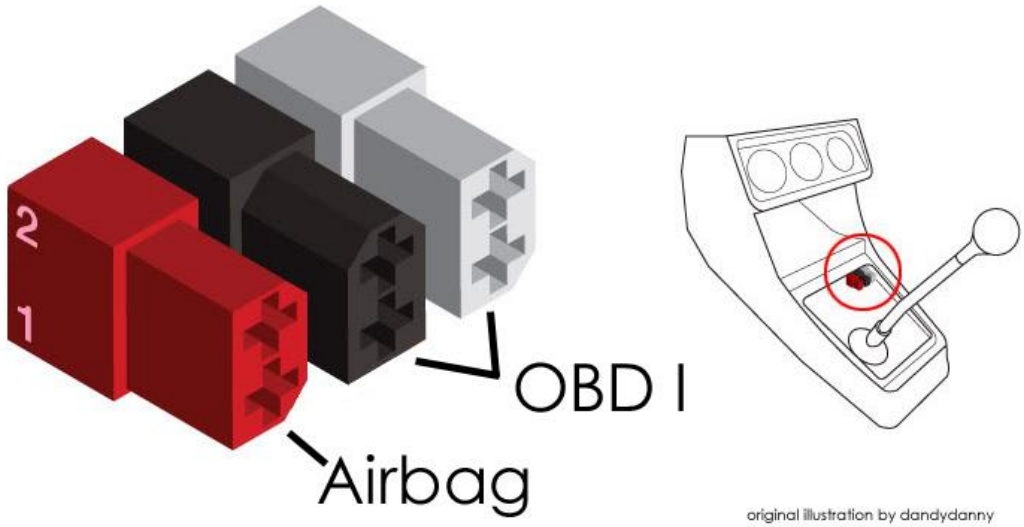
Digifant I diagnostics begin on page 3.
Digifant ECU pin-outs begin on page 5.

| Digifant II | Component | Digifant I |
|---|---|---|
| WVWC**B**O15ZMK012345 | VIN | WVWC**C**O15ZMK012346 |
|  <br>037906022CE / 037906022DE / 037906022EN<br>KEN 5WP4016 / KEN 5WP4036 / Siemens 5WP4062<br>25-pin<br>1990-1993 49-state/International<br>---<br>037906022CF / 037906022DD / 037906022EP<br>KEN 5WP40?? / KEN 5WP40?? / KEN 5WP40??<br>25-pin<br>1990 California | ECU | <br> <br>037906023Q / 037906023AB<br>Siemens 5WP4115<br>38-pin<br>1991-1993 California |
| <br>054905377A | Knock Sensor | <br>054905377A |
| <br>211905115D | Coil | <br>6N0905104 |

| | | |
|---|---|---|
| <br>191905351B | Ignition Control Unit | <br>867905352 |
| <br>Full-throttle & Idle Switches<br>037133093D | Throttle Switches | <br>Throttle Position Sensor<br>(aka Throttle Valve Potentiometer)<br>044907385A |
| <br>2-pin at each injector; 2-pin at end of fuel rail | Injector Harness Connectors | <br>2-pin at each injector; 5-pin at end of fuel rail |
| <br>None | Diagnostics | <br>OBD I |
|  <br>49-State<br>(none) | Build Sheet M-Code |  <br>California Digifant I & II<br>(code 027) |

# Digifant I Diagnostics

## Diagnostic Port Location




## Diagnostic Tools

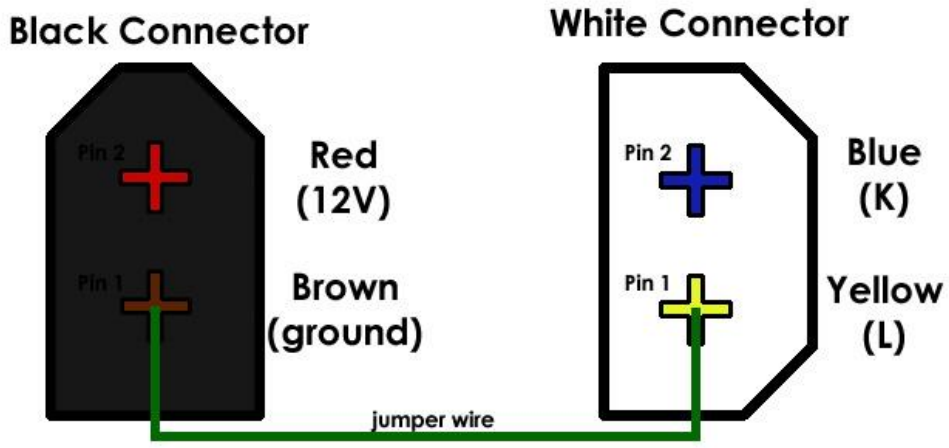
Factory Jumper Tool
Part #357971415E

DIY or Store-bought Jumper Wire

OBD II to OBD I Adapter
VAS 5051/2 | Part #353721271

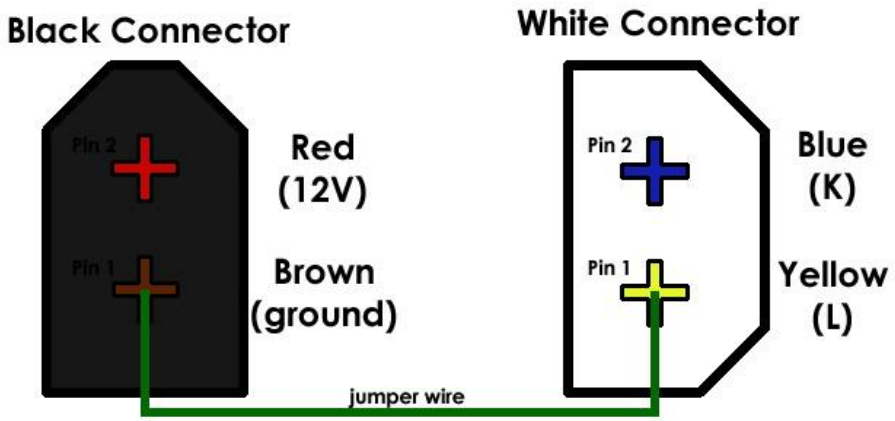
## Pulling Codes ~ Jumper Method

1. Access diagnostic ports below shift boot.
2. Switch ignition to ON.
3. Connect jumper tool as shown at right: Black pin 1 (brown wire) first, followed by white pin 1 (yellow wire).
4. After 5 seconds the OBD CHECK light should begin to flash.
5. Remove jumper, but leave ignition on.
6. Record the number of flashes in sequence.
7. When code 4444 or 0000 appears, fault code sequence has ended. Note: 0000 is indicated by 2½-second flashes at 2½ intervals.
8. Switch ignition OFF to end code display.



## Clearing Fault Code Memory

1. Ignition OFF.
2. Connect jumper tool as shown at right: Black pin 1 (brown wire) to white pin 1 (yellow wire).
3. Switch ignition ON.
4. After 5 seconds remove jumper.
5. OBD CHECK light should flash code 4444.
6. Switch ignition OFF.
7. If no new faults exist, memory will be cleared.




## OBD I Fault Codes

4444 = no faults recorded

2141 = knock sensor (defective knock sensor or wiring; control unit not recognizing knock signal)

2142 = knock sensor (defective knock sensor or wiring; control unit not recognizing knock signal)

2212 = throttle valve potentiometer (defective potentiometer or wiring)

2312 = coolant temperature sensor (defective coolant temperature sensor or wiring)

2322 = intake air temperature sensor (defective intake air temperature sensor or wiring)

2323 = airflow sensor potentiometer (defective airflow sensor potentiometer or wiring)

2341 = oxygen sensor control exceeded (air intake system leaks, CO adjustment incorrect, faulty sensor wiring)

2342 = oxygen sensor (faulty oxygen sensor or wiring)

4411 = fuel injector (check fuel injector wiring and/or injectors)

1111 = control unit (defective control unit)

0000 = end of fault code sequence

## Resetting Digifant I ECU

If any of the following have occurred, the Digifant I control unit must be returned to its reference settings:

- Coolant temp sensor (blue) disconnected while is engine is running
- Digifant ECU replaced
- Airflow sensor replaced
- Throttle valve potentiometer replaced
- Throttle body replaced

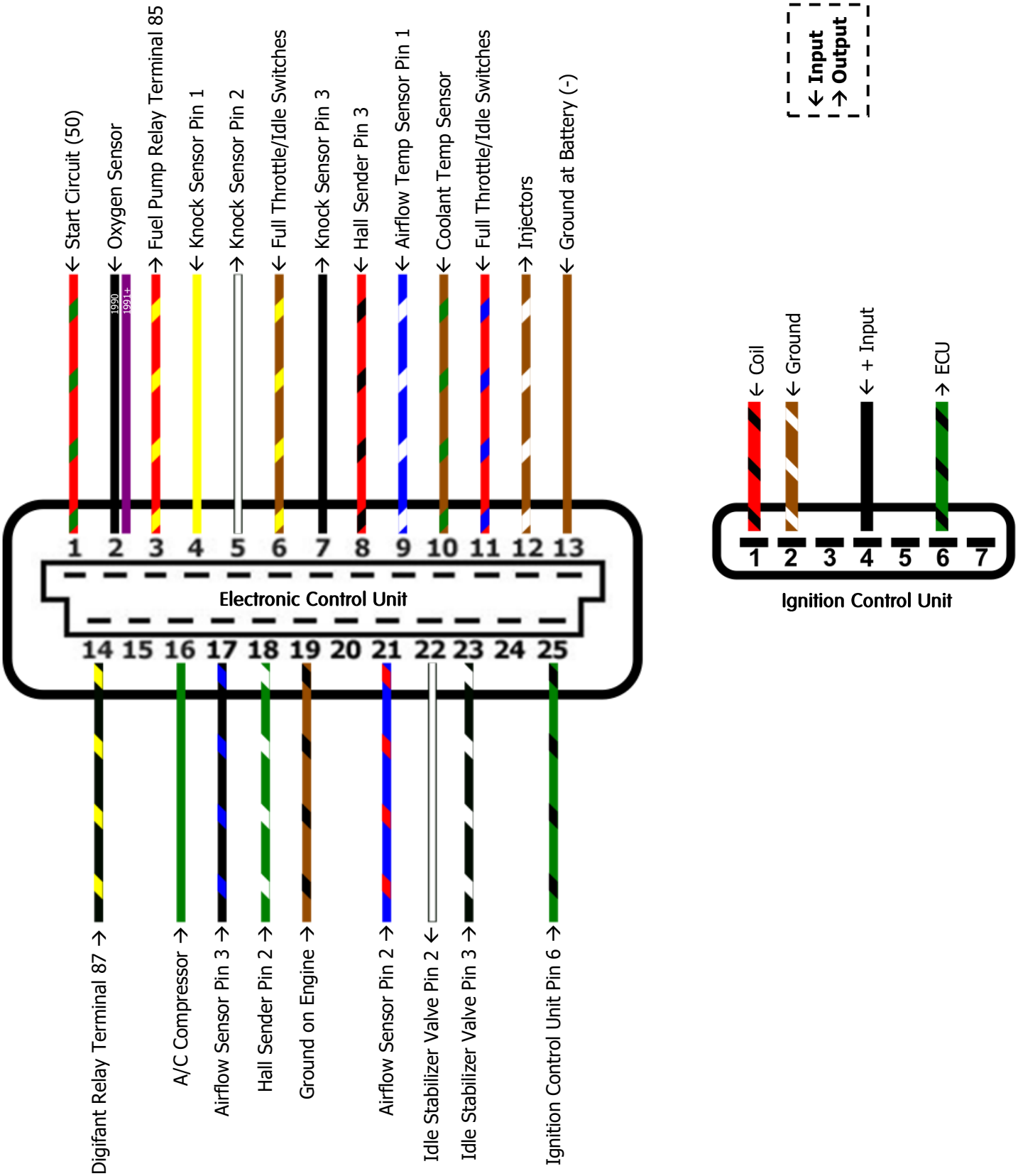
In order to begin the reset process, the following are required:

- ✓ Engine at normal operating temperature (80°C); the radiator cooling fan should have cycled on at least once
- ✓ Exhaust system must be free of leaks
- ✓ Idle stabilization system in proper operating condition
- ✓ All electrical accessories must be switched off
- ✓ Engine nut running

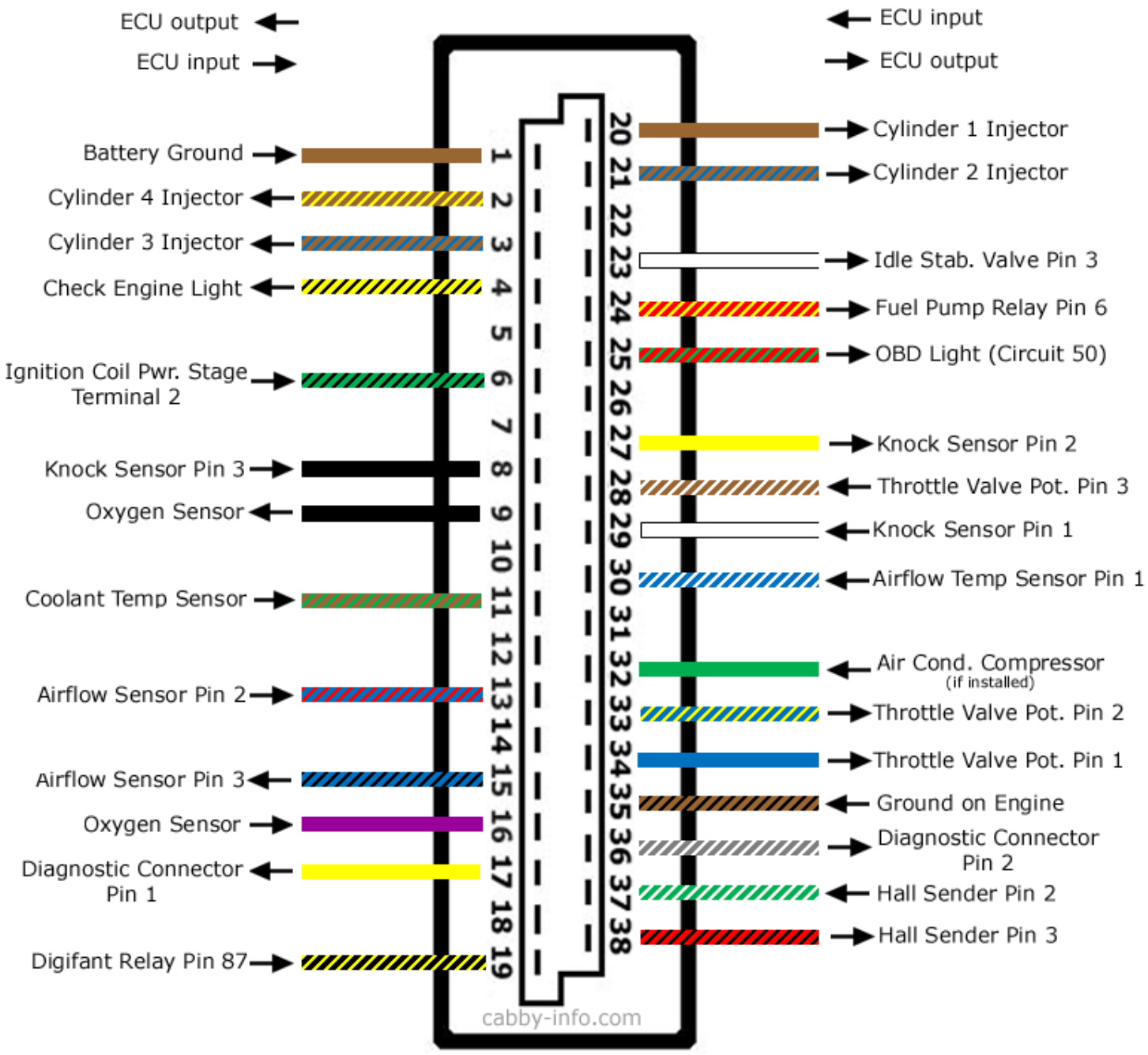
Digifant I Control Unit Reset Procedure:

1. Disconnect the crankcase ventilation hose from the emission control valve on top of valve cover, then plug the hose.
2. Start the engine and let it idle.
3. Disconnect the blue coolant temp sensor.
4. After one minute, reconnect the coolant temp sensor.
5. Stop the engine.
6. Unplug and reconnect the crankcase ventilation hose.
7. Check and clear the OBD fault memory as described on page 2.

# Volkswagen Cabriolet Digifant II Pinouts


← Start Circuit (50)
← Oxygen Sensor
1990
1991+
→ Fuel Pump Relay Terminal 85
← Knock Sensor Pin 1
→ Knock Sensor Pin 2
← Full Throttle/Idle Switches
→ Knock Sensor Pin 3
← Hall Sender Pin 3
← Airflow Temp Sensor Pin 1
← Coolant Temp Sensor
← Full Throttle/Idle Switches
→ Injectors
← Ground at Battery (-)
1 2 3 4 5 6 7 8 9 10 11 12 13
Electronic Control Unit
14 15 16 17 18 19 20 21 22 23 24 25
Digifant Relay Terminal 87 →
A/C Compressor →
Airflow Sensor Pin 3 →
Hall Sender Pin 2 →
Ground on Engine →
Airflow Sensor Pin 2 →
Idle Stabilizer Valve Pin 2 ←
Idle Stabilizer Valve Pin 3 →
Ignition Control Unit Pin 6 →
← Input
→ Output
← Coil
← Ground
← + Input
→ ECU
1 2 3 4 5 6 7
Ignition Control Unit

# Volkswagen Cabriolet Digifant I ECU Pinout


ECU output
ECU input
ECU input
ECU output
Battery Ground
Cylinder 4 Injector
Cylinder 3 Injector
Check Engine Light
Ignition Coil Pwr. Stage Terminal 2
Knock Sensor Pin 3
Oxygen Sensor
Coolant Temp Sensor
Airflow Sensor Pin 2
Airflow Sensor Pin 3
Oxygen Sensor
Diagnostic Connector Pin 1
Digifant Relay Pin 87
Cylinder 1 Injector
Cylinder 2 Injector
Idle Stab. Valve Pin 3
Fuel Pump Relay Pin 6
OBD Light (Circuit 50)
Knock Sensor Pin 2
Throttle Valve Pot. Pin 3
Knock Sensor Pin 1
Airflow Temp Sensor Pin 1
Air Cond. Compressor (if installed)
Throttle Valve Pot. Pin 2
Throttle Valve Pot. Pin 1
Ground on Engine
Diagnostic Connector Pin 2
Hall Sender Pin 2
Hall Sender Pin 3
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38
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